

# Comparisons of Job Characteristics

Focus Occupation: **Computer Programmers (15-1021)**

Associated Occupation: **Computer and Information Systems Managers (11-3021)**

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

## Knowledge

Similarity of Focus Occupation to Associated Occupation: 82

Focus Occupation: **Computer Programmers (15-1021)**

Associated Occupation: **Computer and Information Systems Managers (11-3021)**

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Computers and Electronics	8.4	20.0	24.2	>> Current knowledge level is likely more than sufficient
Administration and Management	8.4	15.7	9.6	<< Extensive education and/or training may be required
Customer and Personal Service	11.3	15.7	9.0	<< Extensive education and/or training may be required
Production and Processing	6.0	11.8	2.6	<< Extensive education and/or training may be required
Personnel and Human Resources	5.6	11.2	2.8	<< Extensive education and/or training may be required
Telecommunications	3.9	10.9	4.8	<< Extensive education and/or training may be required
Economics and Accounting	4.4	9.7	3.5	<< Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Skills

Similarity of Focus Occupation to Associated Occupation: 40

Focus Occupation: **Computer Programmers (15-1021)**

Associated Occupation: **Computer and Information Systems Managers (11-3021)**

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Monitoring	9.9	13.5	8.8	<< Extensive development of skills in this area may be required
Systems Evaluation	6.4	12.2	10.1	< A higher skill level may be required
Management of Personnel Resources	6.9	11.1	6.2	<< Extensive development of skills in this area may be required

Systems Analysis	6.5	10.8	9.2	<	A higher skill level may be required
Negotiation	6.8	10.2	4.8	<<	Extensive development of skills in this area may be required
Operations Analysis	5.0	9.6	10.1	0	Current skill level may be sufficient
Management of Financial Resources	3.3	8.8	2.2	<<	Extensive development of skills in this area may be required
Management of Material Resources	3.7	8.5	2.5	<<	Extensive development of skills in this area may be required
Programming	2.2	6.9	17.3	>>	Skill level is likely more than sufficient
Technology Design	2.6	5.9	6.2	0	Current skill level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Abilities

Similarity of Focus Occupation to Associated Occupation: 95

Focus Occupation: Computer Programmers (15-1021)

Associated Occupation: Computer and Information Systems Managers (11-3021)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Written Comprehension	11.0	15.1	13.8	0	Current ability level may be sufficient
Written Expression	9.8	13.5	10.3	<<	Extensive improvement in abilities may be required
Deductive Reasoning	10.6	13.2	12.2	0	Current ability level may be sufficient
Inductive Reasoning	10.2	13.2	11.6	<	Some improvement in abilities may be required
Information Ordering	9.9	12.3	12.8	0	Current ability level may be sufficient
Fluency of Ideas	7.6	10.1	8.3	<	Some improvement in abilities may be required
Originality	7.6	10.1	8.7	<	Some improvement in abilities may be required
Memorization	5.6	7.3	5.8	<	Some improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Activities that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 90

Focus Occupation: Computer Programmers (15-1021)

Associated Occupation: Computer and Information Systems Managers (11-3021)

Work Activities	Exclusivity of Activity
Analyze workflow	89
Consult with customers concerning needs	69
Consult with managerial or supervisory personnel	60
Develop computer performance standards	87

Direct and coordinate activities of workers or staff	3
Evaluate computer system user requests or requirements	81
Follow data security procedures	77
Follow data storage procedures	75
Recommend software or hardware purchases	85
Revise or correct errors in computer programs, software, or systems	85
Test computer programs or systems	78
Use computer application flow charts	84
Use computer programming language	82
Use project management techniques	47

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Tools and Technologies that Both Occupations Have in Common

Similarity of Focus  
Occupation to Associated  
Occupation: 83

**Focus Occupation: Computer Programmers (15-1021)**  
**Associated Occupation: Computer and Information Systems Managers (11-3021)**

Tools and Technologies	Exclusivity
Business function specific software	1
Computers	1
Content authoring and editing software	1
Data management and query software	1
Development software	4
Industry specific software	1
Network applications software	1
Operating environment software	12
System Cards	51

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.